

REMARKS

Claims 4-6, 13-14 and 18-19 have been canceled without prejudice or disclaimer. Claim 7 has been amended to clarify that the copolymer comprises first and second recurring units. It is respectfully submitted that these amendments to Claim 7 do not modify the scope of the claim. Claims 16 and 17 have been amended to depend from Claim 15 rather than Claim 13. As set forth below, Claim 15 is patentable over the cited references. No new matter has been added and entry is respectfully requested.

First, Applicants gratefully acknowledge the allowance of Claims 10-12. Applicants also gratefully acknowledge the courtesies extended by Examiner Ashton in the telephone interview conducted on April 25, 2006. During the interview, Examiner Ashton agreed that the copolymer of Claim 1 can only have acrylate or methacrylate monomers at least two of which are monomers of formulae 1-6 and that Claim 15 includes a resin having a recurring unit of formula 1, 2 or 3.

Applicants also point out that Claim 19 was not addressed in the Official Action. Claim 19, however, has been canceled.

Claim 1-9 and 15 have been rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. According to the Official Action, Claims 1-9 are indefinite because these claims read on a copolymer *consisting of* methacrylate or acrylate monomers and also recite that the copolymer *comprises* monomer units of the formulae 1-6 or 1-3. The Official Action is apparently objecting to the use of the open-ended *comprises* language along with the closed-ended *consisting-of* language. This rejection is respectfully traversed. Moreover, as set forth in the claims, the copolymer *consists of* acrylate and methacrylate recurring units (i.e., the copolymer has only acrylate and

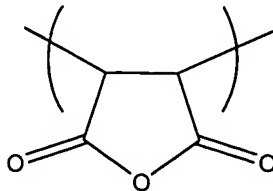
Application Serial No.: 10/648,243

methacrylate recurring units) and the copolymer *comprises* at least two of the recurring units of formulae 1-6 or 1-3 (i.e., the polymer can have additional recurring units). Thus, it is clear from the language of the claim that the copolymer can have recurring units other than those of formulae 1-6 or 1-3 as long as those additional recurring units are either *acrylate or methacrylate* recurring units.

Claim 15 has been amended to clarify that the resin comprises a first recurring unit and a second recurring unit. It is respectfully submitted that language of Claim 15 is sufficiently definite. Reconsideration and withdrawal of this rejection is therefore respectfully requested.

Claims 1-9 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,517,993 B2 to Nakamura et al. (hereinafter referred to as "Nakamura"). This rejection is respectfully traversed.

The Official Action is relying upon Copolymer 1 of Nakamura. Copolymer 1 of Nakamura, however, includes a recurring unit derived from maleic anhydride. In particular, Nakamura states that Copolymer-1 was synthesized from a monomer mixture which included maleic anhydride and that the synthesized polymer, when subjected to FT-IR, exhibited "the absorption of C=O stretching vibration of maleic anhydride" (column 13, lines 34-41 and lines 61-62 of Nakamura). A recurring unit derived from maleic anhydride has a structure as set forth below:



Application Serial No.: 10/648,243

This recurring unit is clearly not a methacrylate or acrylate recurring unit. Therefore, it is clear that Copolymer 1 of Nakamura includes a recurring unit other than a methacrylate or acrylate recurring unit. Claim 1, however, recites that the copolymer *consists of* methacrylate or acrylate recurring units (i.e., that the copolymer includes only methacrylate or acrylate recurring units). Claims 1-9 are therefore patentable over Nakamura. In view of the above, reconsideration and withdrawal of this rejection is therefore respectfully requested.

Claims 1-9 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,830,866 to Kobayashi et al. (hereinafter referred to as “Kobayashi”). This rejection is respectfully traversed.

According to the Official Action, Kobayashi discloses a radiation sensitive resin composition comprising a polymer (i.e., copolymer 15 of Kobayashi) having first and second recurring units of formula 1. Claims 1, 4 and 7, however, each recite that the copolymer of resin (A) comprises recurring units selected from the group consisting of specific combinations of recurring units of formulae (1) to (6) (Claim 1) or formulae (1) to (3) (Claims 4 and 7). The specifically recited combinations do not include first and second recurring units of formula (1). Claims 1-9 are therefore patentable over Kobayashi. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Claims 1-3 have not been rejected on other grounds. Accordingly, it is respectfully requested that these claims are allowable.

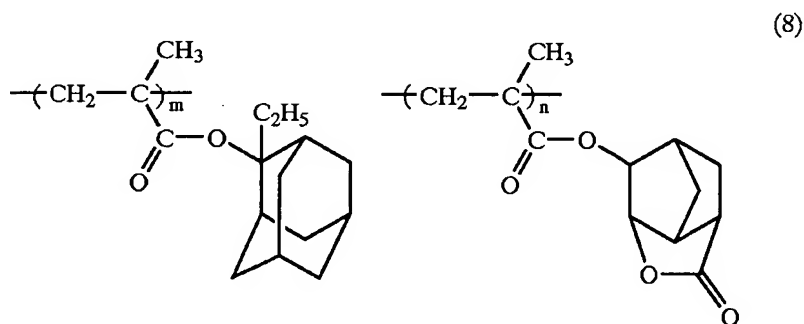
Claims 4, 7 and 13-18 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,806,026 B2 to Allen et al. (hereinafter referred to as

Application Serial No.: 10/648,243

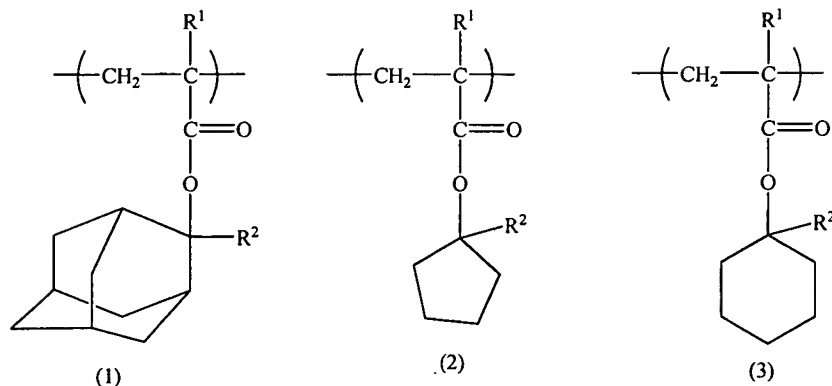
“Allen”) in view of U.S. Patent No. 6,962,766 B2 to Uenishi et al. (hereinafter referred to as “Uenishi”). This rejection is respectfully traversed.

Claims 4, 13, 14 and 18 have been canceled and Claims 7 and 15-17 are patentable over the cited references as set forth below.

The Official Action is relying on Claim 25 of Allen which is directed to a polymer which includes combinations of various comonomers including 1-methyl-cyclopentyl methacrylate and 2-methyl-2-adamantylmethacrylate. This polymer, however, does not have a “second recurring unit” as set forth in Claims 7 and 15. Moreover, the definition of the substituent R^2 for the second recurring unit of Claims 7 and 15 excludes methyl groups. The Official Action also apparently relies upon Polymer 8 of Uenishi which includes the following recurring units:



It is respectfully submitted that Polymer 8 of Uenishi does not have a “first recurring unit” as set forth in Claim 15. Moreover, Claim 15 recites that the resin comprises a first recurring unit of the following formulas (1) - (3)



wherein R^1 represents a hydrogen atom or methyl group and R^2 is a methyl group.

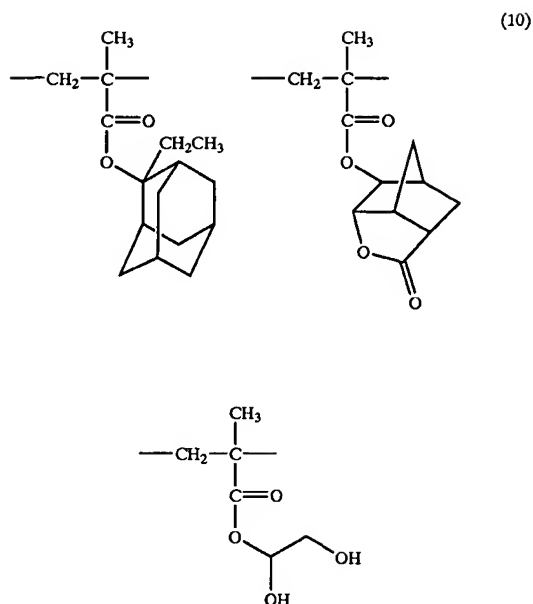
Polymer 8 of Uenishi, however, corresponds to formula (1) of Claim 15 only when R^2 is an *ethyl* group. Claims 7 and 15 are therefore patentable over Allen in view of Uenishi.

In addition, Claims 16 and 17 depend from Claim 15. These claims are therefore also patentable over Allen in view of Uenishi for at least the reasons set forth above.

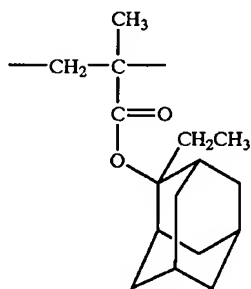
In view of the above, reconsideration and withdrawal of this rejection is respectfully requested.

Claim 15 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,692,897 B2 to Fujimori et al. (hereinafter referred to as "Fujimori"). This rejection is respectfully traversed.

The Official Action is relying upon Polymer 10 of Fujimori (column 118, lines 15-40). Polymer 10 of Fujimori includes the following recurring units:



It is respectfully submitted that Polymer 10 of Fujimori does not have a “first recurring unit” as set forth in Claim 15. In particular, the recurring unit having the following structure:



is a recurring unit of formula (1) of Claim 15 only when R¹ is a methyl group and R² is an *ethyl* group. Claim 15, however, recites that for the “first recurring unit”, R² is a *methyl* group. Accordingly, Polymer 10 of Fujimori does not have a “first recurring unit” as set forth in Claim 15. Claim 15 is therefore patentable over Fujimori. Reconsideration and withdrawal of this rejection is therefore respectfully requested.

Application Serial No.: 10/648,243

Claims 16 and 17 have been amended to depend from Claim 15. These claims are therefore also patentable for at least the reasons set forth above with respect to Claim 15.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully request a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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